

# From Frequent Hieroglyphic Signs to the Fringes of the Repertoire

History and Prospects of the TSL

Philipp Seyr (ULiège)

Jorke Grotenhuis (UCLA Berkeley), Stéphane Polis (F.R.S.-FNRS; ULiège)



berlin-brandenburgische  
AKADEMIE DER WISSENSCHAFTEN



# Outline of the talk

- History of the project

A18

A23

A40

A40A

A40B

A41

A42

A42A

A42B

A43

A43

A43B

A43E

A43J

A43L

A44

A45

A45C

A46

A53

A54

A55

A57B

A301

A311B

C1

C8

C8A

C11

C12

C12A

C18

C18A

C18C

C19

C20

C78A

C78B

C78C

C78D

C98

C102A

C118

C121

U13032

NO CODE

NO CODE

NO CODE

# Outline of the talk

- History of the project
- Goal and data model

A18

A23

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A40A

A40B

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A42A

A42B

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A43B

A43E

A43J

A43L

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A45C

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A55

A57B

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A311B

C1

C8

C8A

C11

C12

C12A

C18

C18A

C18C

C19

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C78A

C78B

C78C

C78D

C98

C102A

C118

C121

U13032

NO CODE

NO CODE

NO CODE

# Outline of the talk

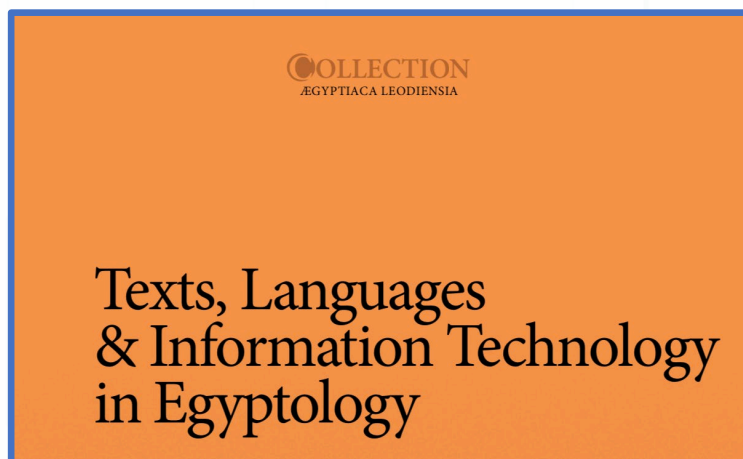
- History of the project
- Goal and data model
- *Recent developments*
  - Hieroglyphic repertoire expansion in Unicode
  - Well known but not recorded hieroglyphs
  - Local variations

# History of the project

2013–2021

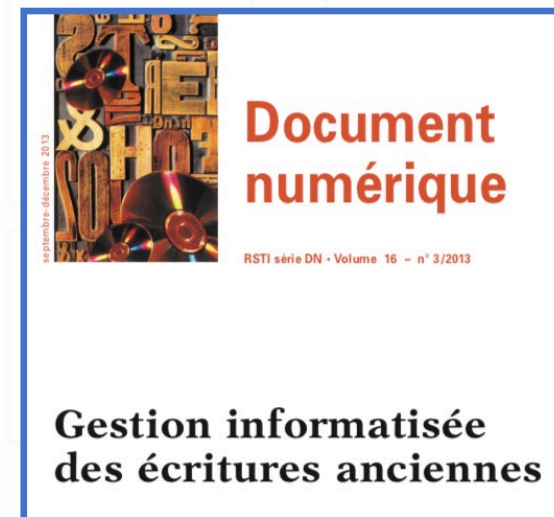
# History of the project

- 2013



The Manuel de Codage Encoding of Hieroglyphs  
Impedes Development of Corpora\*

Mark-Jan NEDERHOF  
University of St Andrews



**Dictionnaire hiéroglyphique, inventaire  
des hiéroglyphes et Unicode**

**Dimitri Meeks**

# History of the project

- 2013

**Réviser le codage de l'égyptien ancien**

**Vers un répertoire partagé des signes hiéroglyphiques**

**Stéphane Polis<sup>1</sup>, Serge Rosmorduc<sup>2</sup>**



# History of the project

- 2013
- 2015



**INTERNATIONAL CONGRESS  
OF EGYPTOLOGISTS XI**  
Florence, Italy 23 - 30 August 2015  
**MUSEO EGIZIO FIRENZE**  
FLORENCE EGYPTIAN MUSEUM

**St. Polis & S. Rosmorduc**

A shared repository of hieroglyphic signs: The *Thot Sign List (TSL)*



# History of the project

- 2013
- 2015



28. January 2015, No. 03/2013

2015 Anneliese Maier Research Award winners announced

Jean Winand

**Mit Computerlinguistik zum ägyptischen Wörterbuch**

Der belgische Ägyptologe Jean Winand zählt zu den führenden Experten für die ägyptische Sprache. Mithilfe der Computerlinguistik begann er 2006 mit dem Ramses-Projekt die Arbeit an einer Textdatenbank, welche die jüngeren Phasen der ägyptische Sprachgeschichte abdeckt, und führte damit moderne linguistische Methoden in die Ägyptologie ein. Hoch angesehen ist Winand auch als Co-Autor einer mittelägyptischen Grammatik und für seine Arbeiten zu regionalen sprachlichen Unterschieden und zur Kodierung von Hieroglyphen. In Deutschland will Winand gemeinsam mit seinem Heidelberger Partner Joachim Friedrich Quack die Erkenntnisse aus seinem Ramses-Projekt mit Arbeiten aus Deutschland, wie der der Berliner Akademie der Wissenschaften an einem Thesaurus Linguae Aegyptiae, zusammenführen und ein umfassendes modernes Wörterbuch des Ägyptischen schaffen.

**Gastinstitut:** Universität Heidelberg, Ägyptologisches Institut

**Gastgeber:** Prof. Dr. Joachim-Friedrich Quack

**Prof. Dr. Jean Winand**

wurde 1962 in Belgien geboren. Er ist Professor an der Université de Liège, sowie an der l'Université libre de Bruxelles, beides Belgien. Zudem ist er Mitglied in mehreren nationalen und internationalen Gremien der Ägyptologie. In seinen Arbeiten konzentriert er sich auf die Textanalyse und Lexikographie der ägyptischen Sprache und Schrift.



Foto: Université de Liège/  
Michel Houet

# History of the project

- 2013

- 2015



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**LIÈGE**  
université

# History of the project

- 2013
- 2015–2016



## THOT - THESAURI & ONTOLOGY

for documenting Ancient Egyptian Resources

BETA

HOME

THESAURI ▾

TEI INTERCHANGE FORMAT

Search a concept...



Filter concepts in current



- \* Thot Collections
  - > \* Dates and dating systems
  - > \* Language
  - > \* Material
  - > \* Museums and private collection
  - > \* Scripts
  - > \* Technique of inscription
  - > \* Text content

## Thesauri

Using the definition set by the International Standard Organisation, thesauri are 'controlled and structured vocabulary in which concepts are represented by terms, organised so that relationships between concepts are made explicit, and preferred terms are accompanied by lead-in entries for synonyms or quasi-synonyms'. In Thot, each concept is represented by one or several terms expressed in Arabic, English, French and German, and identified by a unique identifier (the 'thot-number'). It should also be noted that a supplementary 'language' has been included, the so-called 'Thot-xml', in order to provide terms to be used as values of XML attributes in digital documents, such as TEI files.

## Thesauri covered by the project

As a first approach, the Thot project aims at compiling a wide range of thesauri relating to artifactual and textual metadata. This will consist in quite small thesauri made of a couple of terms, as well as rather big ones populated by several hundreds of concepts. Subject headings pertaining to general and abstract concepts will be included in a second stage.

# History of the project

- 2013
- 2015–2016



[Accueil](#) [L'équipe](#) [Développements](#) [Web Design](#) [Publications](#) [Contacts](#) [Q](#)

**Luc Desert**  
**Centre Informatique de Philosophie & Lettres**

Créé en 1983 à l'Université de Liège, le CIPL est une Unité Décentralisée d'Informatique (UDI). Son objectif général est de promouvoir et coordonner l'utilisation de l'informatique au sein de la Faculté de Philosophie et Lettres.

[▶ DEVELOPPEMENTS](#) [▶ WEB DESIGN](#)



Thot Sign List [Home](#) [About](#) [Contact](#) [Register](#) Hello, jgrotenhuis! [Logout](#)

## Thot Sign List

[Documents](#)

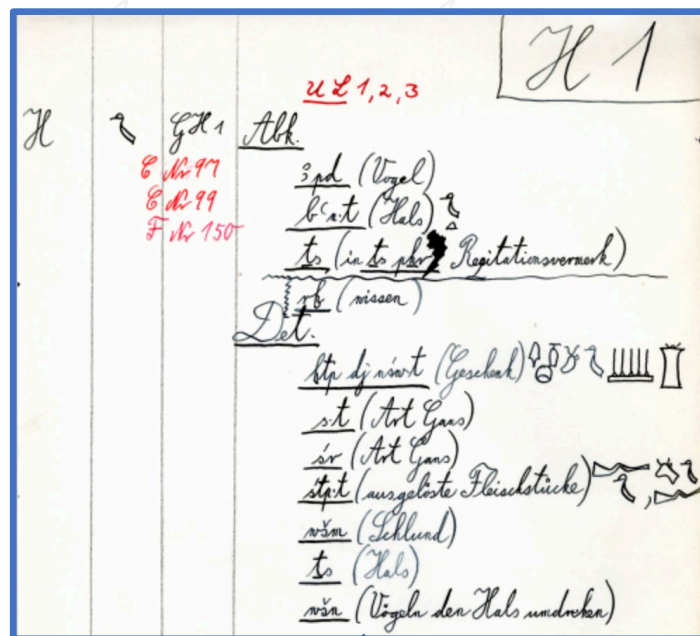
[Sources](#)




[Signs](#)

[Tokens](#)

# History of the project

- 2013
- 2015–2016
- 2016–2017



Thot Sign List    Home About Contact Register Hello, jgrotenhuis! Logout

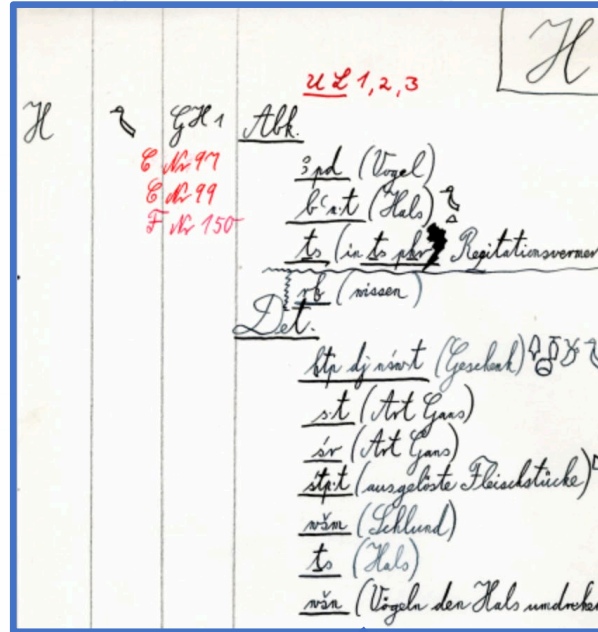
Thot Sign List

[Documents](#) [Sources](#) [Signs](#) [Tokens](#)

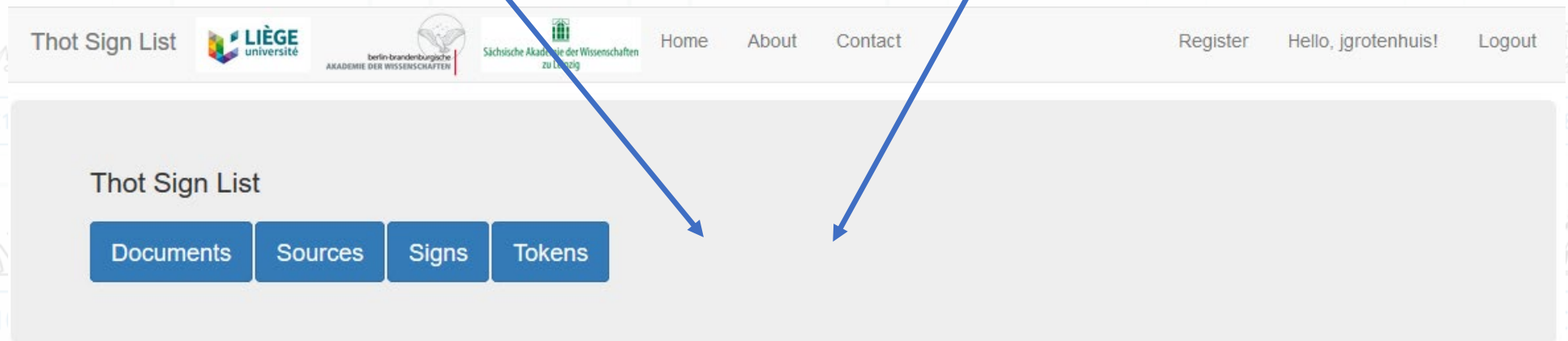


# History of the project

- 2013
- 2015–2016
- 2016–2017

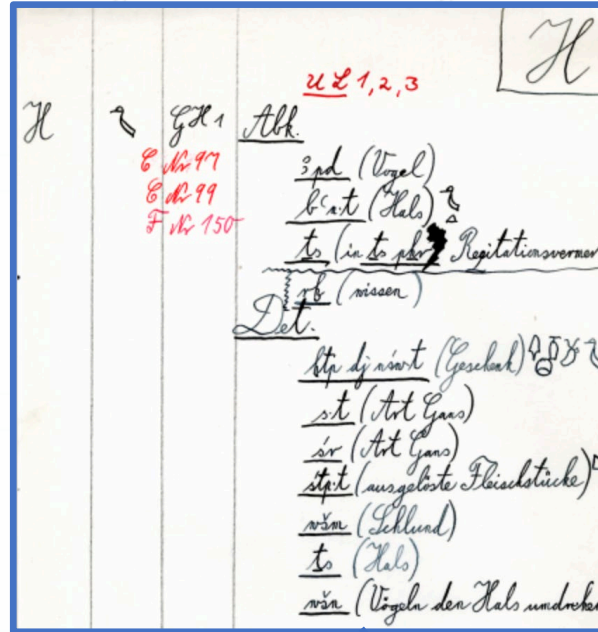


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2 <Zeichen>
3 <code>A1</code>
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5 <Element>
6 <Lautwert>j</Lautwert>
7 <Literatur>G 442</Literatur>
8 <Literatur>L 153</Literatur>
9 <Literatur>S 90</Literatur>
10 </Element>
11 <Element>
12 <Lautwert>z</Lautwert>
13 <Literatur>G 442</Literatur>
14 <Literatur>Wb 3, 404 ff.</Literatur>
15 <Literatur>S 45, 133</Literatur>
16 </Element>
17 <Element>
18 <Lautwert>rHw</Lautwert>
19 <Literatur>G 442</Literatur>
20 </Element>
21 <Element>
22 <Lautwert>rmT</Lautwert>
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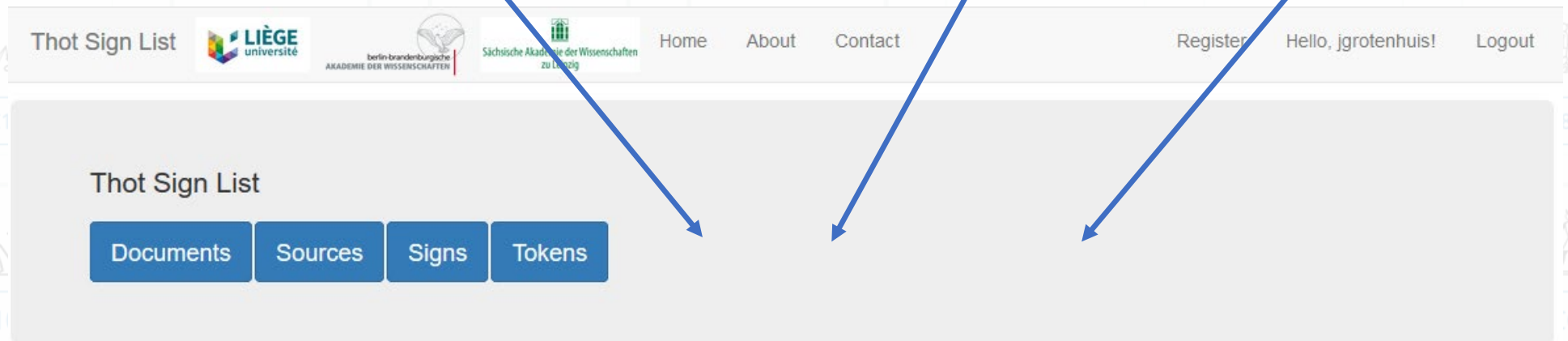


# History of the project

- 2013
- 2015–2016
- 2016–2017

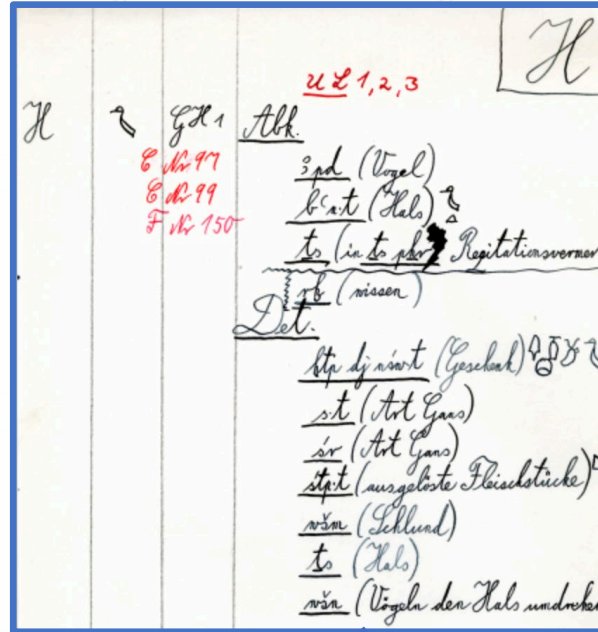


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7 | <Literatur>G 442</Literatur>
8 | <Literatur>L 153</Literatur>
9 | <Literatur>S 90</Literatur>
10 | </Element>
11 | <Element>
12 | <Lautwert>z</Lautwert>
13 | <Literatur>G 442</Literatur>
14 | <Literatur>Wb 3, 404 ff.</Literatur>
15 | <Literatur>S 45, 133</Literatur>
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18 | <Lautwert>rHw</Lautwert>
19 | <Literatur>G 442</Literatur>
20 | </Element>
21 | <Element>
22 | <Lautwert>rmT</Lautwert>
23 | <Literatur>S 121</Literatur>
24 | <Literatur>Z A1</Literatur>
25 | <Literatur>K 127.1</Literatur>
26 | </Element>
27 | </Funktion>
28 | <Funktion type="De">
29 | <Existenz type="JA">
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# History of the project

- 2013
- 2015–2016
- 2016–2017



1 <Zeichenliste>

2 <Zeichen>

3 <code>A1</code>

4 <Funktion type="Lautwert">

5 <El

6 <La

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8 <Li

9 <Li

10 </E

11 <El

12 <La

13 <Li

14 <Li

15 <Li

16 </E

17 <El

18 <La

19 <Literatur>G 442</Literatur>

20 </Element>

21 <Element>

22 <Lautwert>rmT</La

23 <Literatur>S 121<

24 <Literatur>Z A1</L

25 <Literatur>K 127.<

26 </Element>

27 </Funktion>

28 <Funktion type="De

29 <Existenz type="JA

2140	2141	2020	2101	2100	2180
2120	2251	2300	2301	2320	2420

**JSesh**  
Éditeur hiéroglyphique libre

Thot Sign List

Home About Contact Register Hello, jgrotenhuis! Logout

Thot Sign List

Documents

Sources

Signs

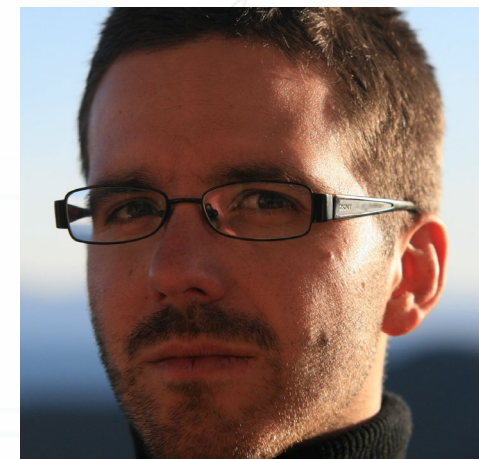
Tokens





# History of the project

- 2013
- 2015–2016
- 2016–2017
- 2016–2019



# History of the project

- 2013
- 2015–2016
- 2016–2017
- 2016–2019
- 2019–today

The screenshot shows the homepage of the Thot Sign List website. At the top left is the logo, a stylized bird on a branch with 'ISL' below it, followed by the text 'Thot Sign List'. To the right is a navigation menu with links for 'Home', 'Browse', 'Search', 'About', and 'Contact'. Further right are links for 'Register' and 'Login'. The main content area has a large blue header with the text 'THOT SIGN LIST' and the 'ISL' logo. Below this are three blue buttons: 'Browse', 'Search', and 'About'. Under each button is a descriptive text: 'Browse the list of Signs', 'Search the list of Signs', and 'Information about the project'. At the bottom, there is a footer with the copyright notice '© 2019 - Thot Sign List', the logo for 'LIÈGE université', the logo for 'berlin-brandenburgische AKADEMIE DER WISSENSCHAFTEN', and a link for 'Legals'.

© 2019 - Thot Sign List



[Legals](#)

## The Thot Sign List (TSL)

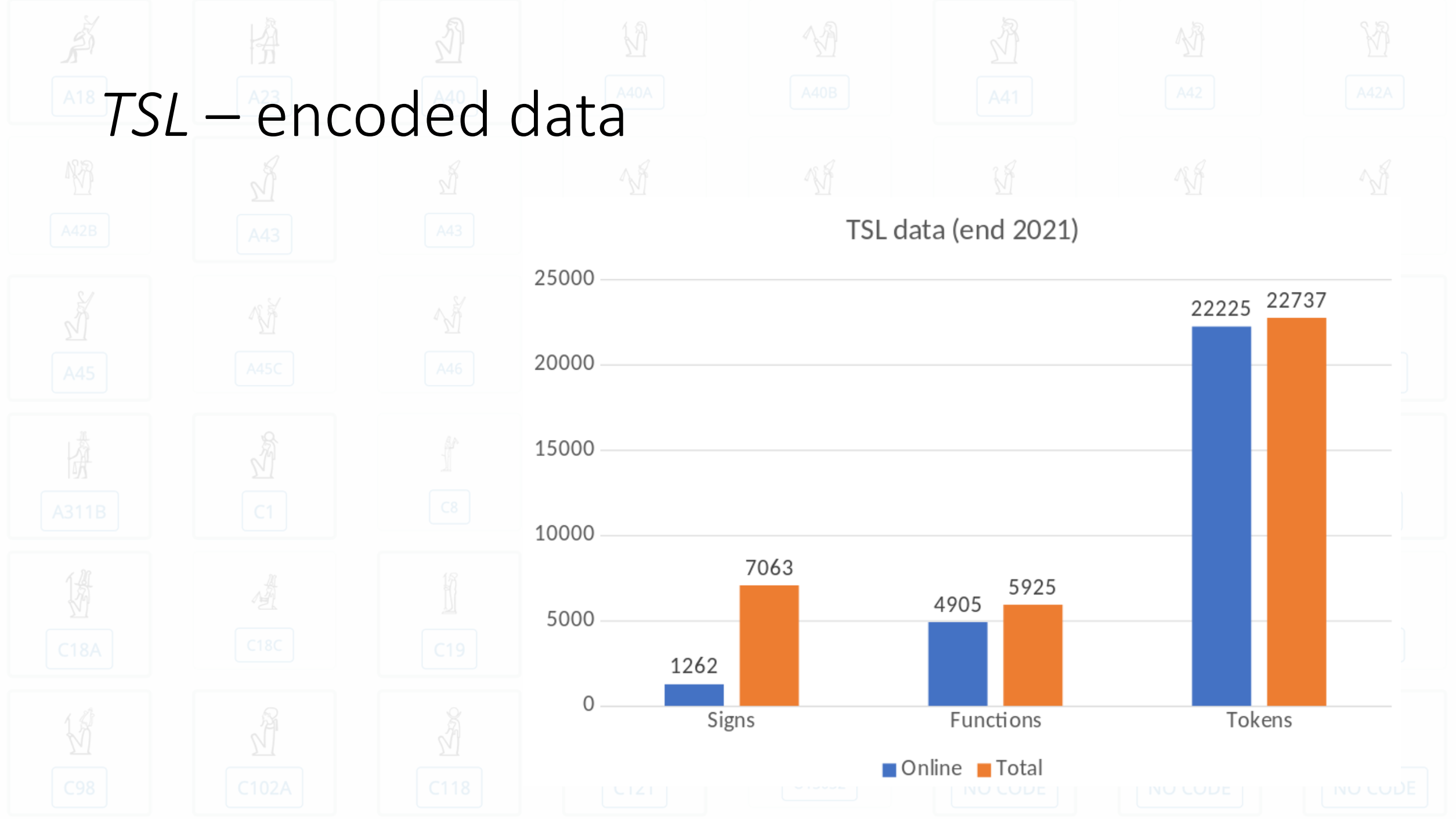
An open digital repertoire of hieroglyphic signs<sup>\*</sup>

**Stéphane Polis** (F.R.S.-FNRS / ULiège), **Luc Desert** (ULiège), **Peter Dils** (SAWL), **Jorke Grotenhuis** (ULiège), **Vincent Razanajao** (UBordeaux-Montaigne), **Tonio Sebastian Richter** (BBAW), **Serge Rosmorduc** (CNAM), **Simon D. Schweitzer** (BBAW), **Daniel A. Werning** (BBAW, HUBerlin), **Jean Winand** (ULiège)

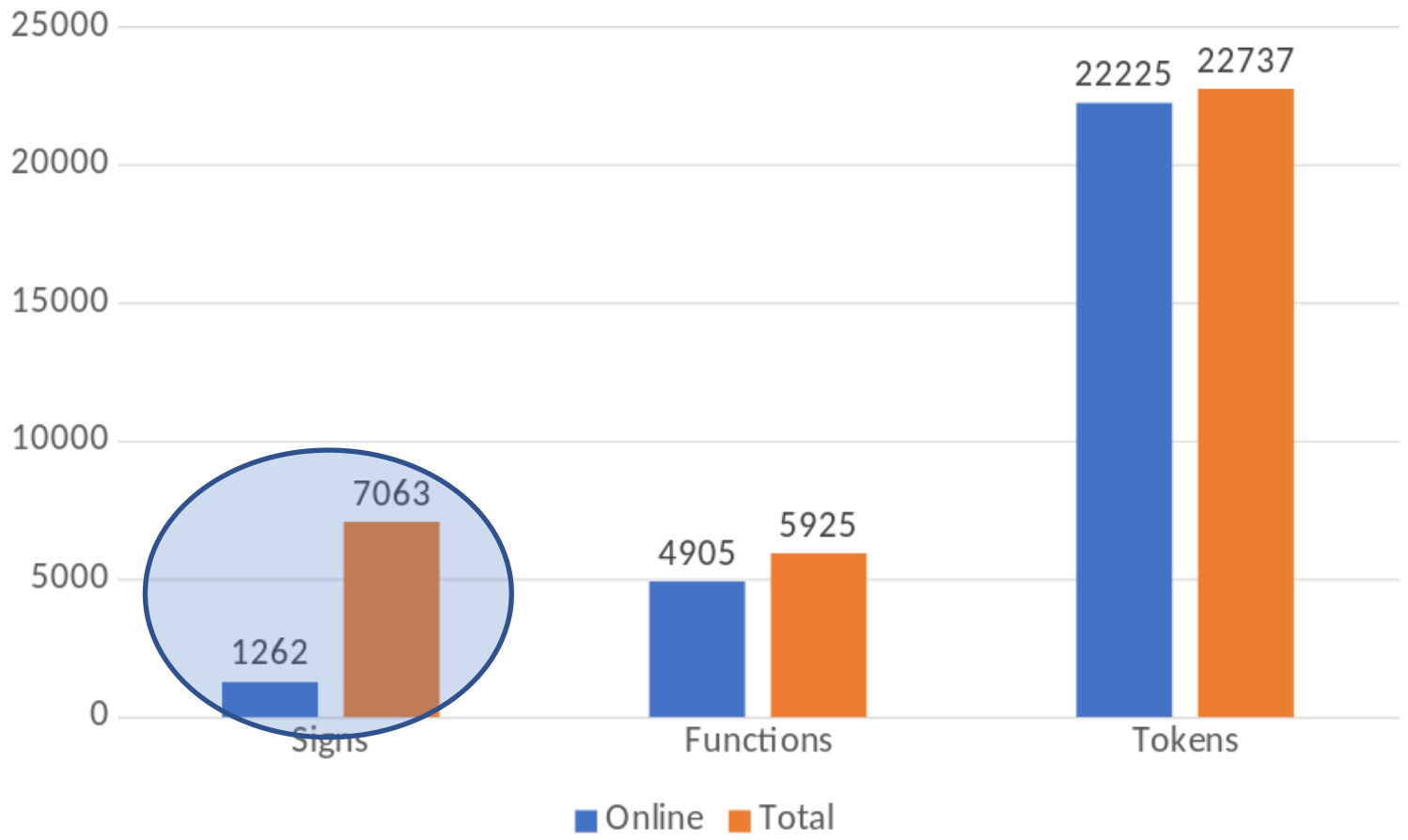
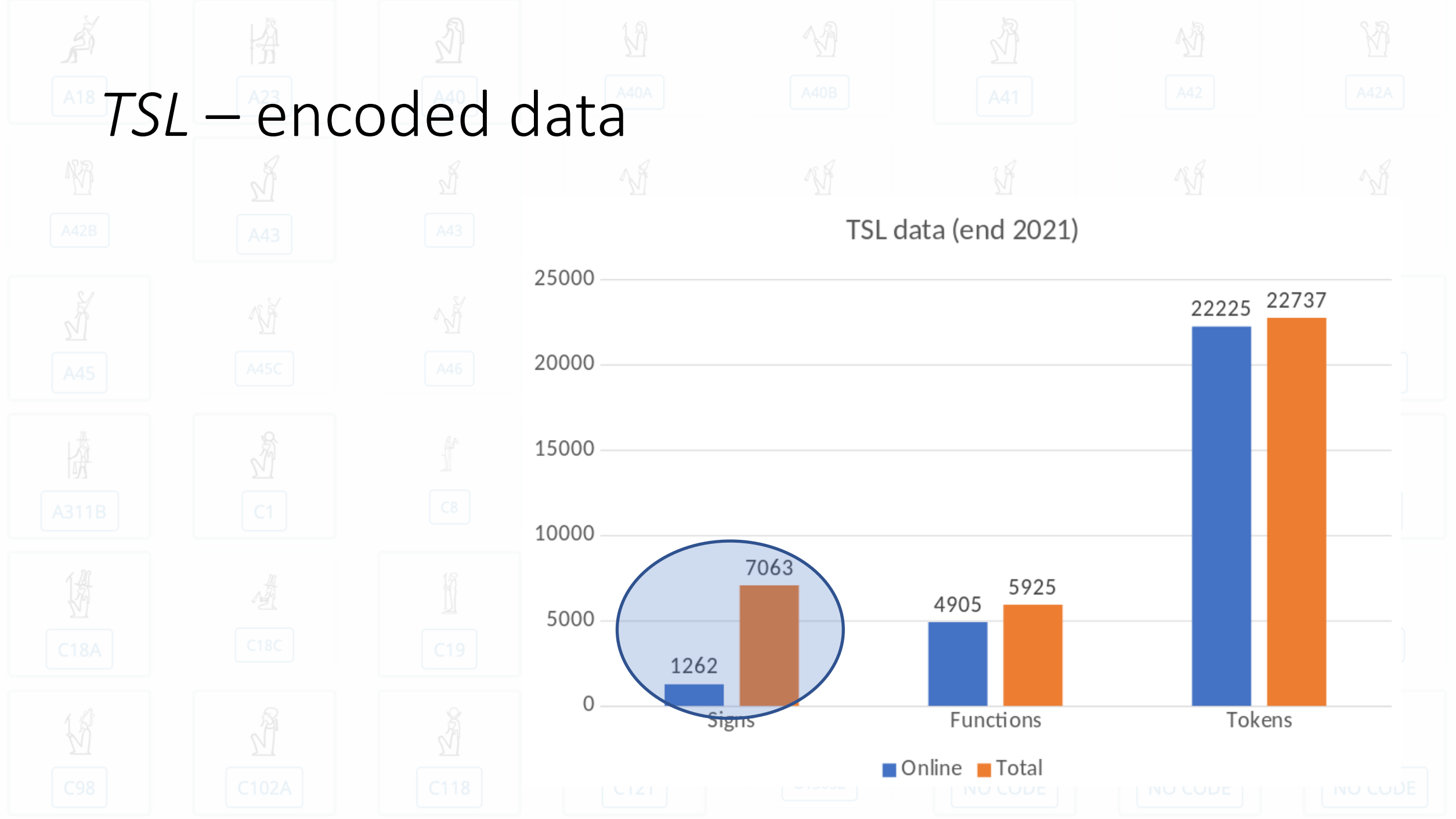
**I**N THIS PAPER, we introduce the Thot Sign List (TSL), an online digital repertoire of hieroglyphic signs (<http://thotsignlist.org>) that records the graphemes attested in the Ancient Egyptian hieroglyphic texts, with special attention to their contextual functions and to their iconic variations across media and time. The paper is structured as follows. In Section 1, we present a brief history of the TSL and we specify its goals and targeted audience. In Section 2, we introduce the data model, which meets the requirements formulated in Meeks (2013) and Polis & Rosmorduc (2013), and discuss the use of shared thesauri for the metadata (Thesauri and Ontologies for documenting Ancient Egyptian resources; <https://thot.philo.ulg.ac.be>). Section 3 describes the user interface and discusses how data can be browsed, searched, and visualized by users depending on their level of access. We describe the way credits and citation work for this database in Section 4, and we give a list of the collaborators. In the conclusions, we argue that such an online resource will immensely benefit from monitored crowdsourcing: Egyptologists all around the world can enrich this digital repertoire with new sources and examples of hieroglyphic signs.

ENiM 14, 2021, 55–74

# TSL – encoded data

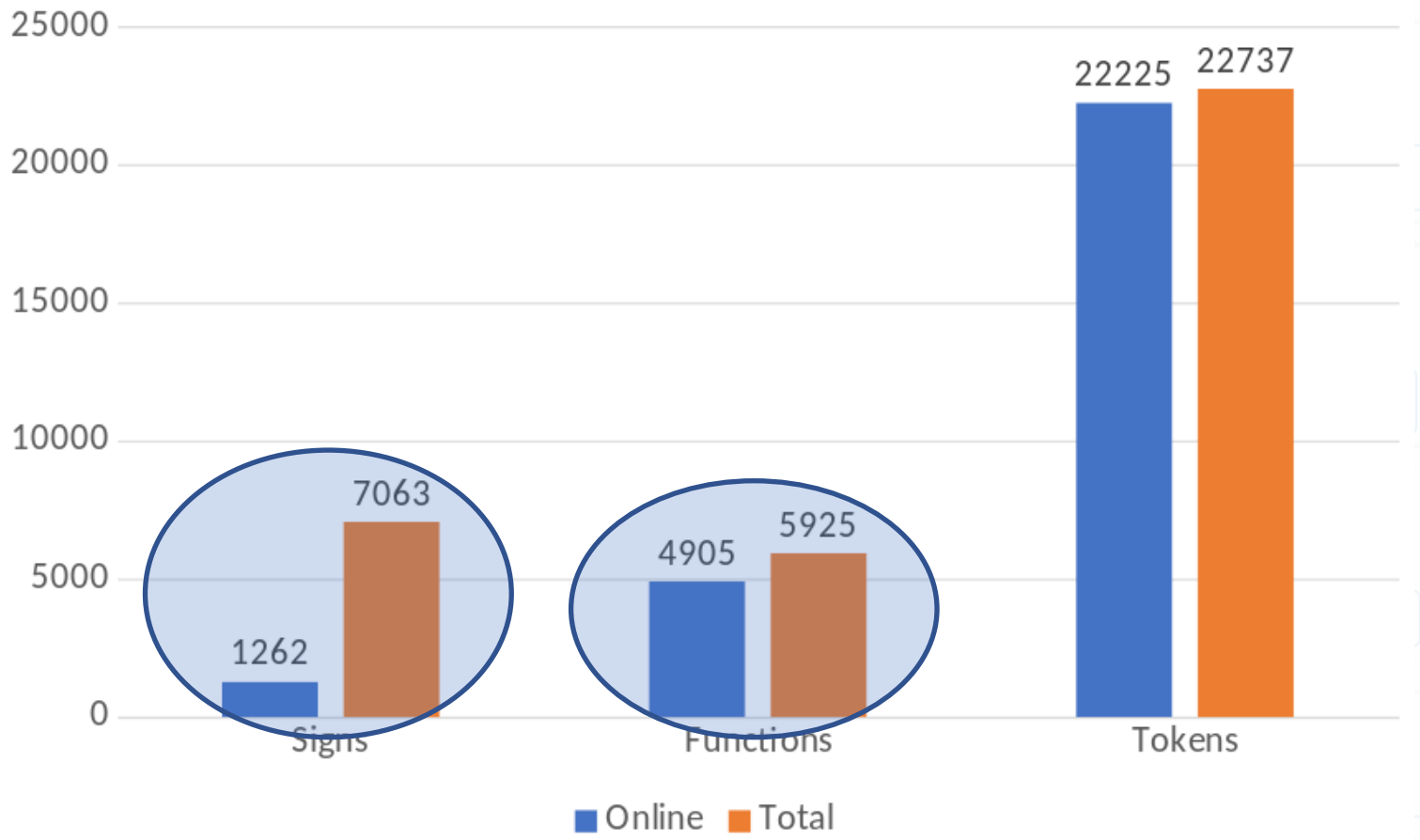


# TSL – encoded data



# TSL – encoded data

TSL data (end 2021)





















































# Hieroglyphic signs

Filter:

First Next 1 Previous Last

 D3	 D9	 D10	 D14	 D15	 D17	 D18	 D19
 D20	 D21	 D23	 D25	 D26	 D26A	 D28	 D29
 D30	 D31	 D31A	 D32	 D33	 D33B	 D33C	 D34
 D34A	 D40	 D49	 D52	 D54	 D56	 D57	 D59
 D60	 D61	 D62	 D63	 D65	 D76	 D82	 D85
 D93	 D100	 D103	 D113	 D117	 D118	 D123	 D124

A18

A42B

A45

A311B

C18A

C98

A42A

A44

A301

C18

C78D

NO CODE



## TSL\_1\_2177



Description: Two arms, holding an oar, in a rowing motion, below a cover. ▼

Codes ▼

Bibliography ▼

Credits ▼

Functions    Classes    Tokens    Cite as

### Classifier (1 function(s))

Phonetic value	Semantic value	Use
—	movement by boat	regular ▼

### Logogram (1 function(s))

Phonetic value	Semantic value	Use
<i>hnj</i>	to row, to convey by water	regular ▼




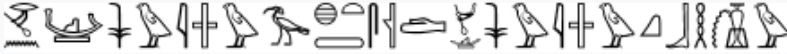







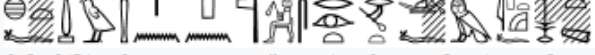
### Phonemogram (1 function(s))

Phonetic value	Semantic value	Use
<i>hn</i>	—	regular ▼

# Logogram (1 function(s))

Phonetic value	Semantic value	Use
<i>hnj</i>	to row, to convey by water	regular <span style="float: right;">➔</span>

## Tokens

Token	Source	Date
	 <p><i>hnj jw(=j) hn.n(=j) wr.t hr z pf</i> Row! And I rowed powerfully, said this man.</p>	Kaiuhor Menkauhor
	 <p><i>hn sw jm.yw 3h.t sqd sw jm.yw qbh.w</i> the ones in the horizon will row him, the ones in the cool waters will sail him</p>	Unas
	 <p><i>hn sw mw.t=f</i> Row him, his mother!</p>	Unas
	 <p><i>nm p.t hn<sup>c</sup> s3h hn dw3.t hn<sup>c</sup> wsjr</i> [...] who travels the sky with Orion and rows the Duat with Osiris.</p>	Nemtiemsaf I Merenre I
	 <p><i>hsf w jz.t=k n.t j.hm.w-sk.w jr hn.t=k</i> As your crew of Imperishable Stars should not be barred from rowing you, [...]</p>	Nemtiemsaf I Merenre I
	 <p><i>hft d(3)w hm n ntr pn šps r jr.t hn.t=f m jp.t=f rs.(y)t</i> when the majesty of this noble god proceeds to do his water procession in his southern inner room,</p>	Tuthmosis III Menkheperre (complete reign)

Bibliography ▼

Credits ▼

A18

A42B

A45

A311B

C18A

C98

A42A

A44

A301

C18

C78D

NO CODE

TSL\_1\_2177



Description: Two arms, holding an oar, in a rowing motion, below a cover. ▾

Codes ▸

Gardiner **D33**  
Hieroglyphica **D33**  
Jseth **D33**  
Unicode **U+13099**

Bibliography ▸

Borghouts, J. F. (2010), *Egyptian: an introduction to the writing and language of the Middle Kingdom*, 2 vols. *Egyptologische Uitgaven* 24, page 32, note 1  
Gardiner, Alan Henderson (1957), *Egyptian grammar being an introduction to the study of hieroglyphs*, 3rd, revised edition, page 453

Credits ▸

Creator: L. Seelau  
Editor(s): J. Grotenhuis, L. Seelau, S.D. Schweitzer

Functions Classes Tokens Cite as

TSL\_1\_2177\_00

Description ▸

Two arms, holding an oar, in a rowing motion, below a cover.

Basic Form: full quadrat

Tag: arms, oar

Type: composite

Components TSL\_1\_5126\_00 ↓

Codes ▸

Gardiner **D33**  
Hieroglyphica **D33**  
Jseth **D33**  
Unicode **U+13099**

Bibliography ▾

Credits ▾

TSL\_1\_2177\_01

Description ▸

Two arms, holding an oar, in a rowing motion.

Basic Form: full quadrat

Tag: arms, oar

Type: composite

Components TSL\_1\_5126\_00 ↓

Codes ▸

Hieroglyphica **D33B**  
Jseth **D33B**

Bibliography ▾

Credits ▾

TSL\_1\_2177\_02

Description ▸

Two arms, holding an oar, in a rowing motion, under a cover resembling a mouth.

Basic Form: full quadrat

Tag: arms, mouth, oar

Type: composite

Components TSL\_1\_2020\_00 ←

Codes ▸

TSL\_1\_5126\_00 ↓  
Codes ▸  
Hieroglyphica **D33C**  
Jseth **D33C**

Bibliography ▾

Credits ▾



A18



A42A



A42B



A45



A311B



C18A



C98



TSL\_1\_2177



TSL\_1\_2177\_00



TSL\_1\_2177\_01



TSL\_1\_2177\_02

Description: Two arms, holding an oar, in a rowing motion, below a cover.

Codes

Bibliography

Credits

Functions Classes Tokens Cite as

	TSL_3_9725	00		TSL_3_16210	00
	TSL_3_190	00		TSL_3_19117	00
	TSL_3_22301	00		TSL_3_22302	00
	TSL_3_22401	00		TSL_3_9739	01
	TSL_3_19592	01		TSL_3_19639	01
	TSL_3_9740	02		TSL_3_18622	02
	TSL_3_19092	02		TSL_3_19587	02
	TSL_3_19635	02		TSL_3_21385	02

C102A

C118

C121

U13032

NO CODE

NO CODE

NO CODE



A301



C18



C78D



Search >

Criteria

	Function Type	=		
	Function Type	=	logogram	-
AND	Semantic Value	contains	to see	-

TSL code (TSL1\_)

Reset

Search

TSL1\_2269



D4

An eye.

Parts of the human body [Gardiner D]

TSL1\_2366



D7A

An eye with an eyebrow.

Parts of the human body [Gardiner D]

TSL1\_3674



H16

The eye of a falcon.

Parts of birds [Gardiner H]

Goal and data model

# Goal and data model

















































*TSL* is born out of the practical necessity of creating electronic corpora of hieroglyphic texts in a principled way and its first aim is ***to document the functions*** attested for individual signs

# Goal and data model

*TSL* is born out of the practical necessity of creating electronic corpora of hieroglyphic texts in a principled way and its first aim is ***to document the functions*** attested for individual signs

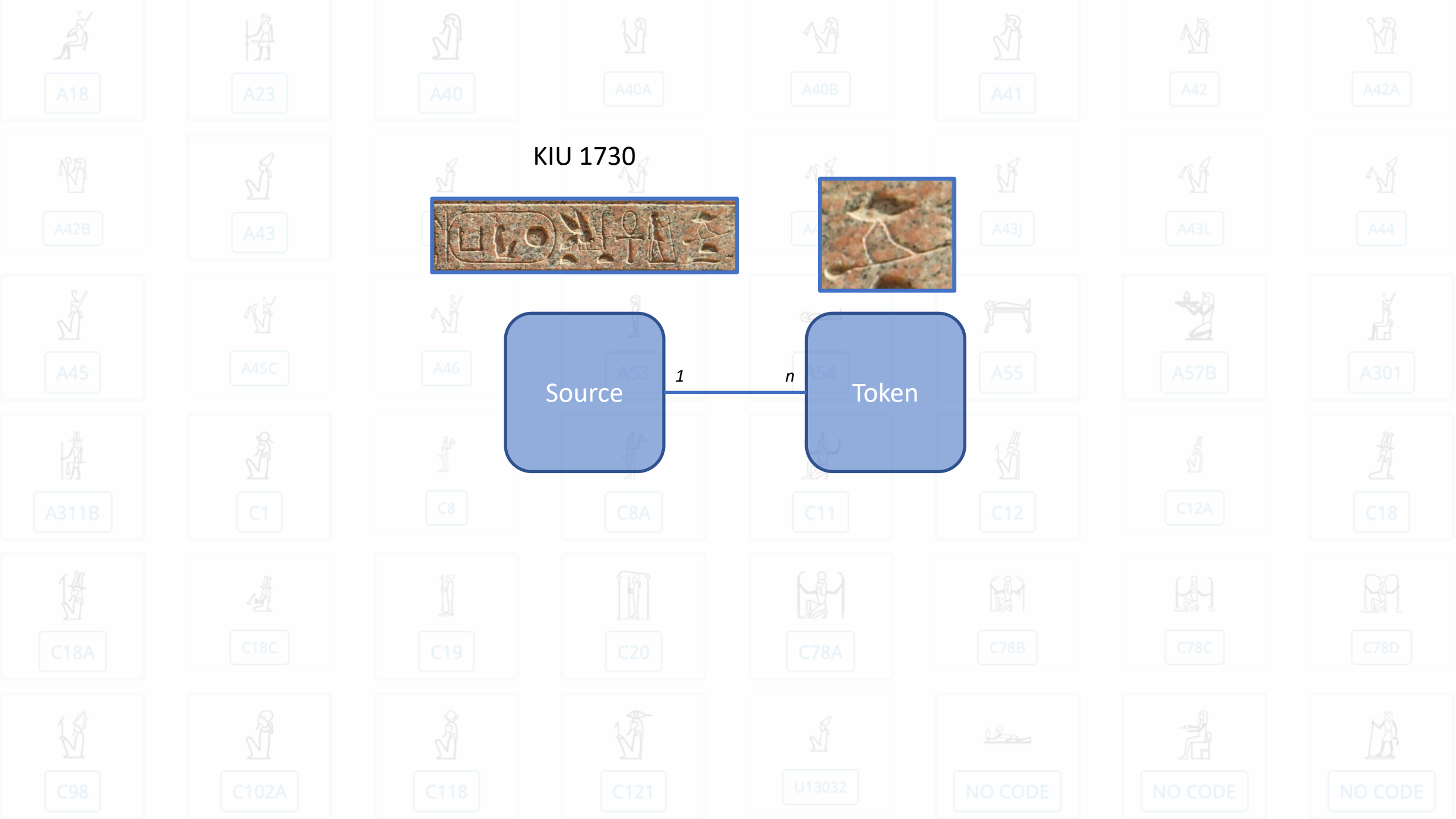
- References to ancient sources
- Description of the iconic features
- Structured repertoire



 A18	 A23	 A40	 A40A	 A40B	 A41	 A42	 A42A
 A42B	 A43	 A43	 A43B	 A43C	 A43J	 A43L	 A44
 A45	 A45C	 A46	 A53	 A54	 A55	 A57B	 A301
 A311B	 C1	 C8	 C8A	 C11	 C12	 C12A	 C18
 C18A	 C18C	 C19	 C20	 C78A	 C78B	 C78C	 C78D
 C98	 C102A	 C118	 C121	 U13032	 NO CODE	 NO CODE	 NO CODE



Token



KIU 1730

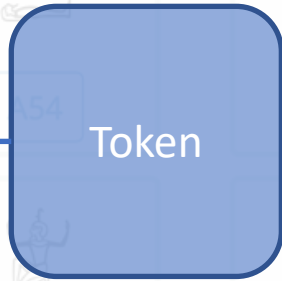
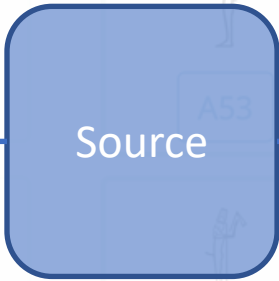


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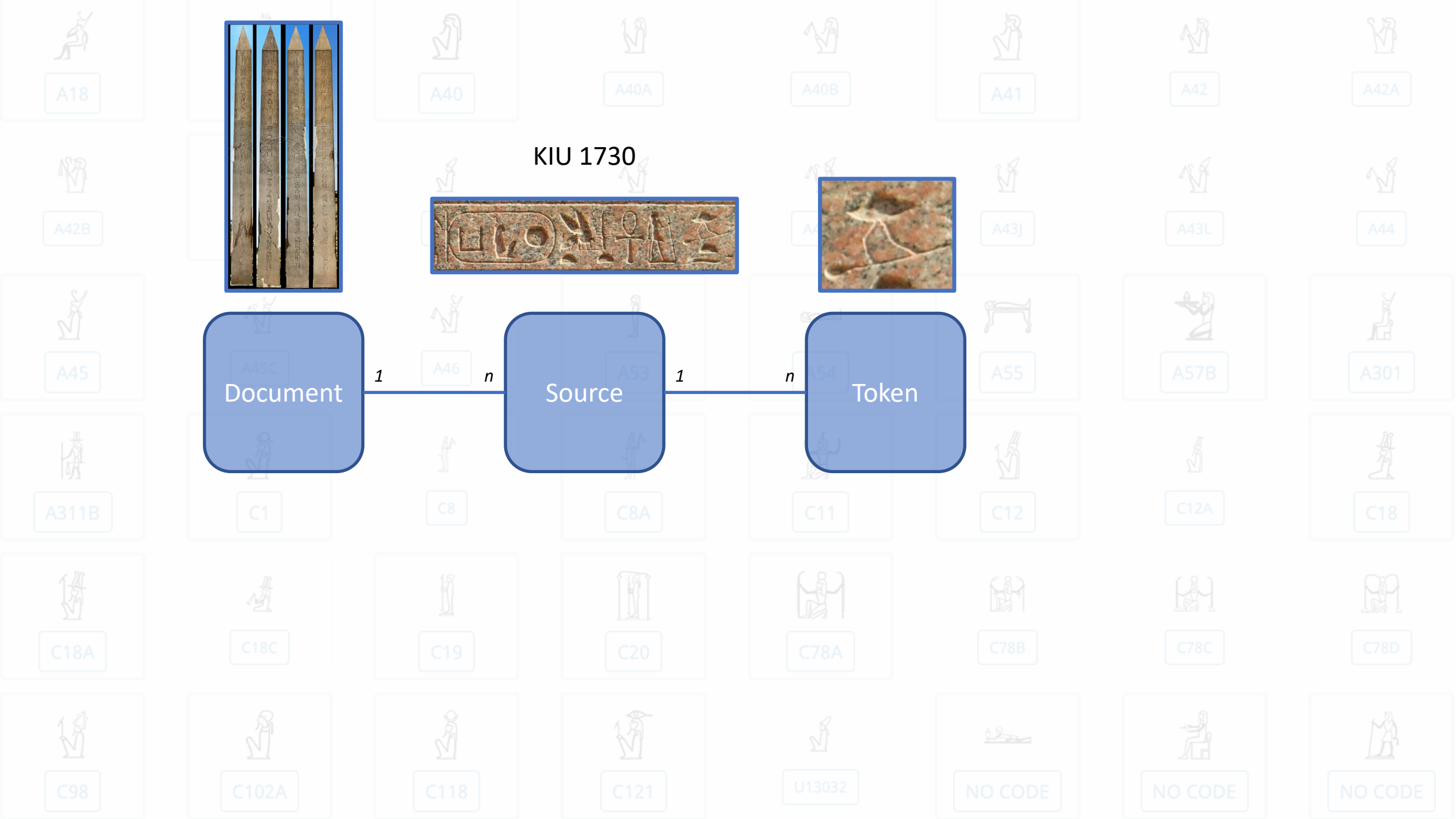
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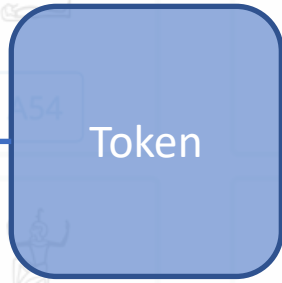
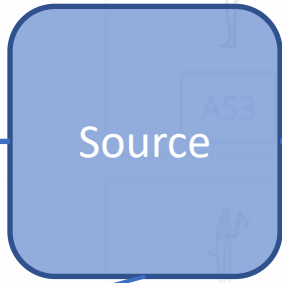
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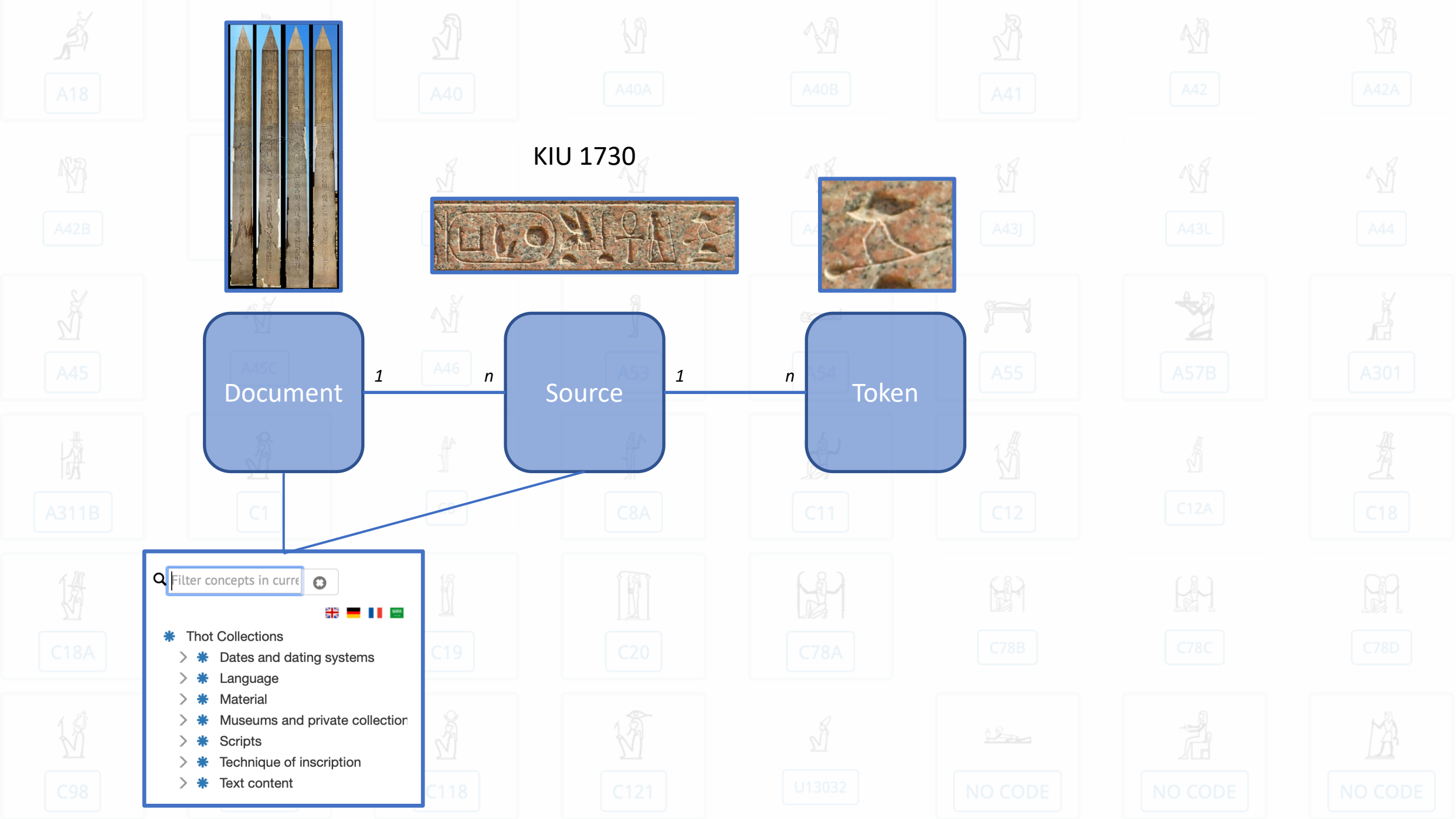
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Filter concepts in current

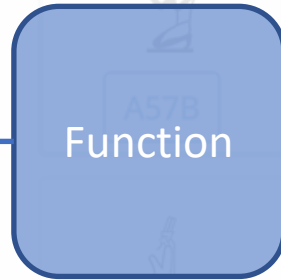
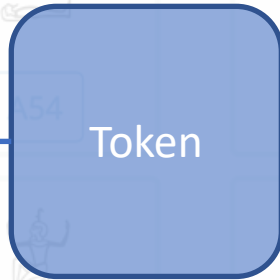
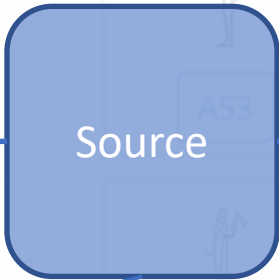
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- \* Thot Collections
  - > \* Dates and dating systems
  - > \* Language
  - > \* Material
  - > \* Museums and private collection
  - > \* Scripts
  - > \* Technique of inscription
  - > \* Text content





Phonogram *hn*  
(in *hn.t* 'statue')



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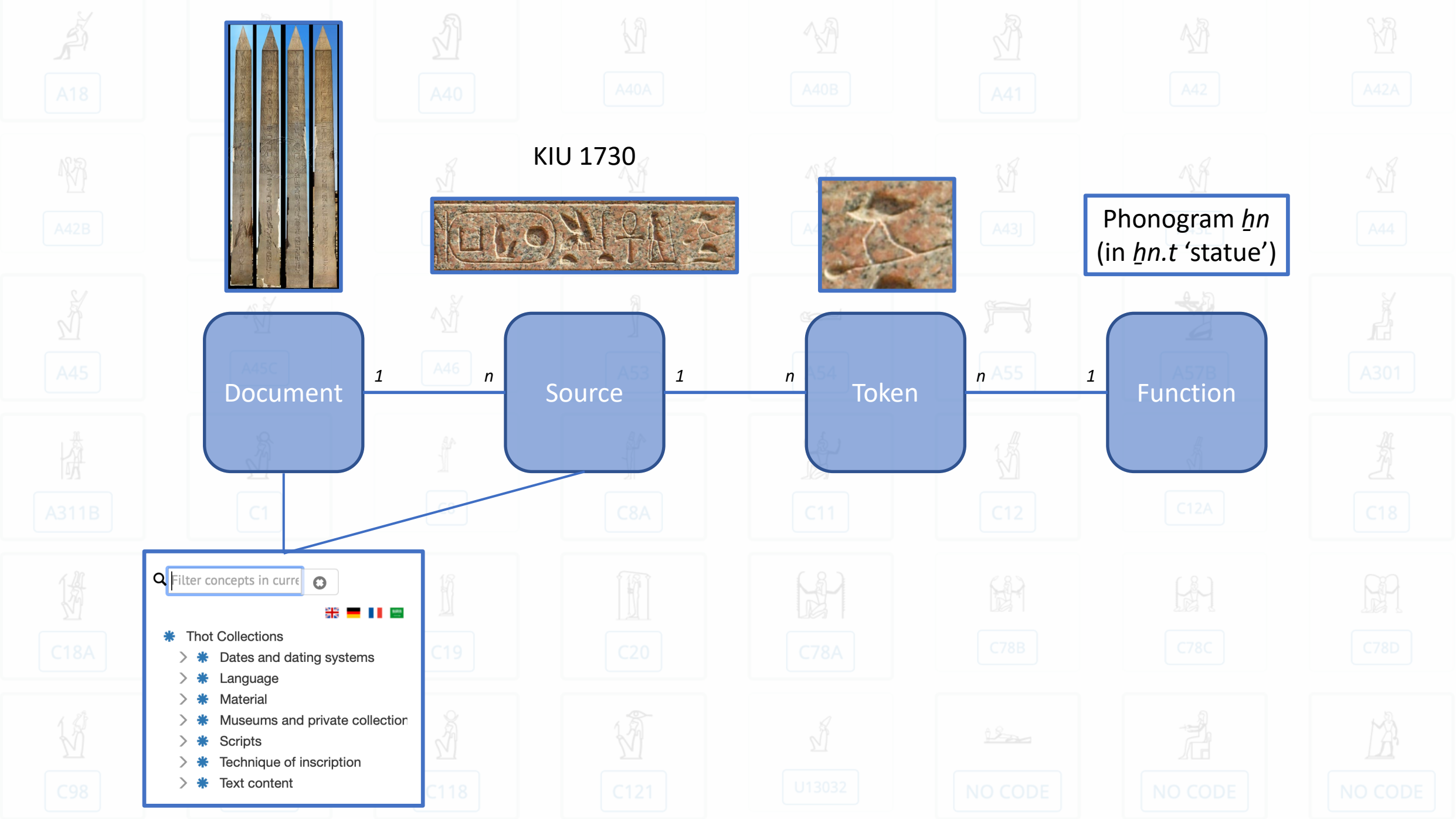
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Q Filter concepts in current

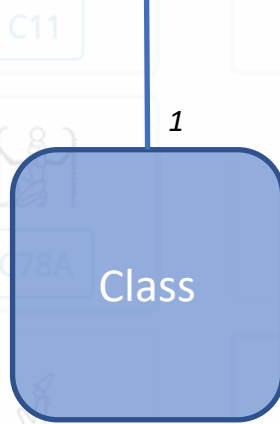
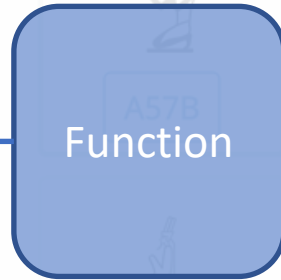
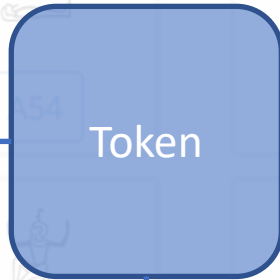
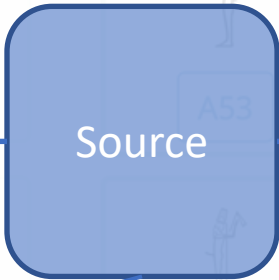
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- \* Thot Collections
  - > \* Dates and dating systems
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Phonogram *hn*  
(in *hn.t* 'statue')



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Filter concepts in current

- \* Thot Collections
  - > \* Dates and dating systems
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  - > \* Museums and private collection
  - > \* Scripts
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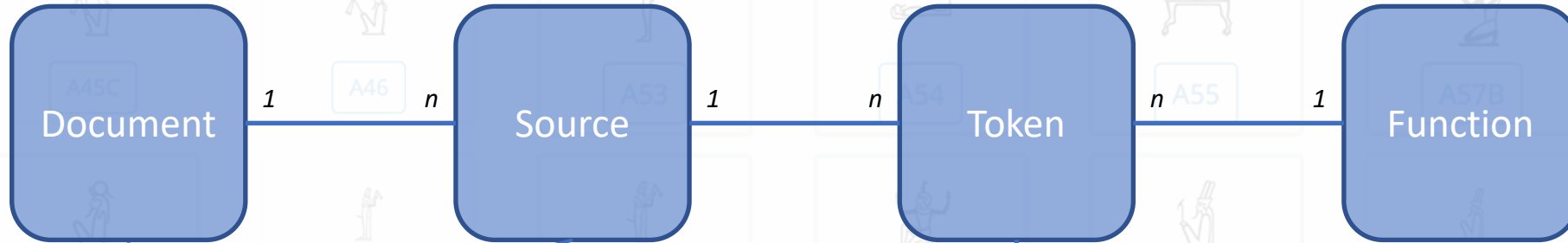




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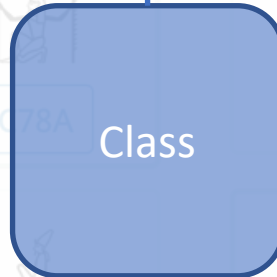


Phonogram *hn*  
(in *hn.t* 'statue')



Filter concepts in current

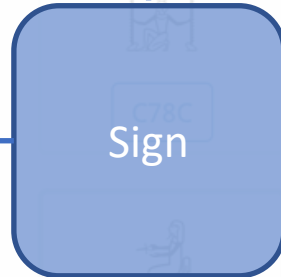
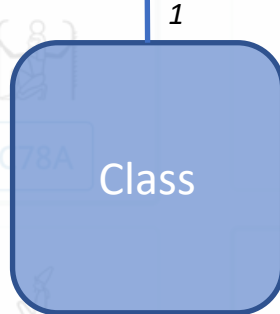
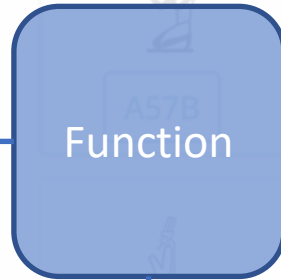
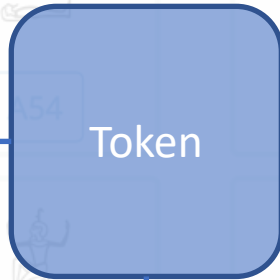
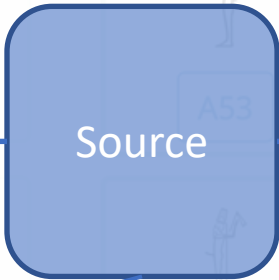
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Phonogram *hn*  
(in *hn.t* 'statue')



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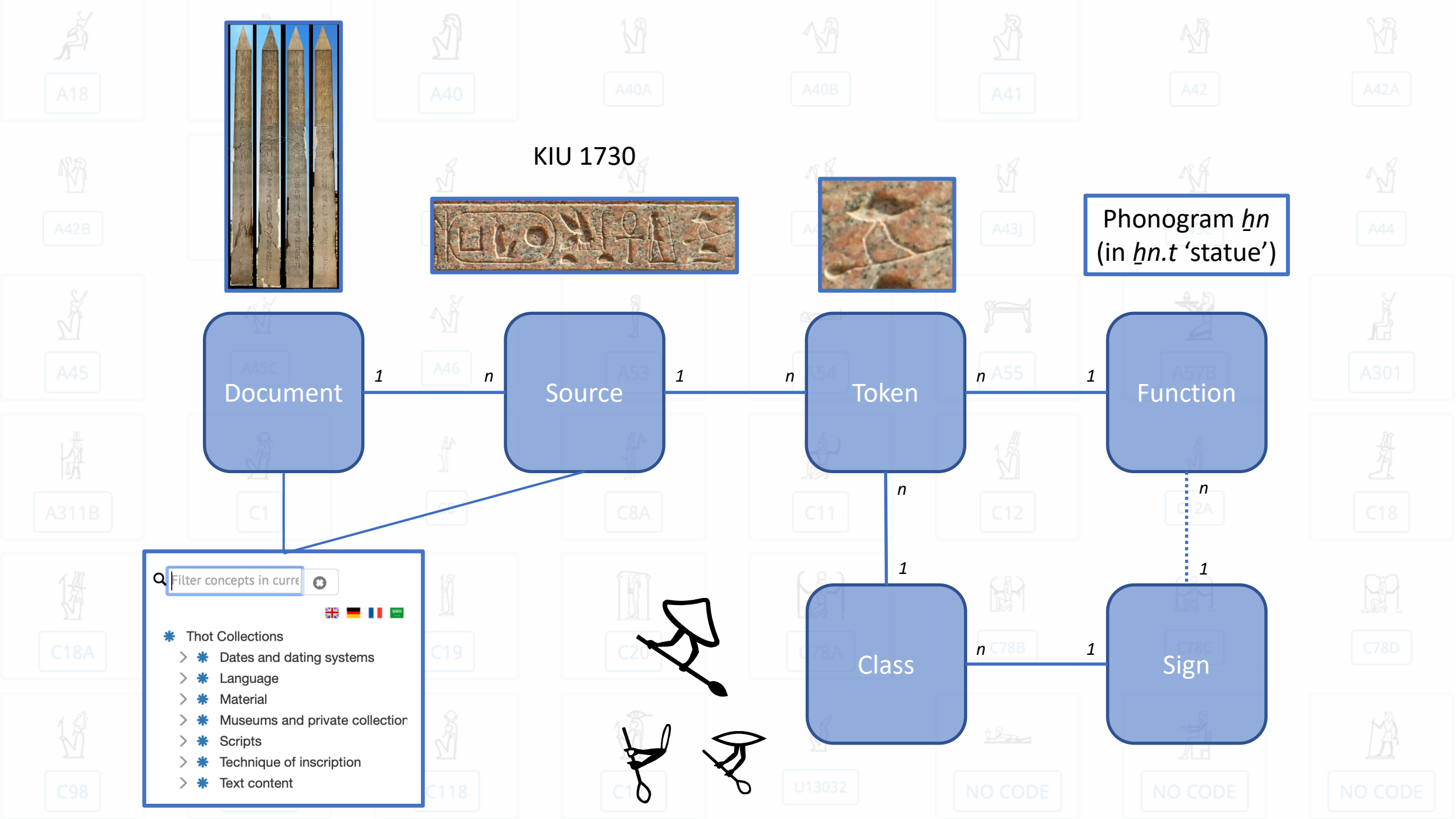
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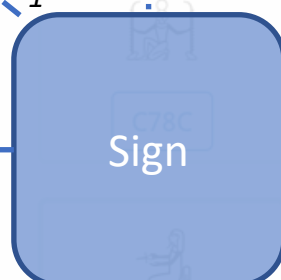
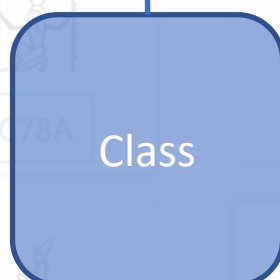
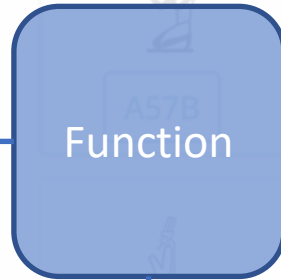
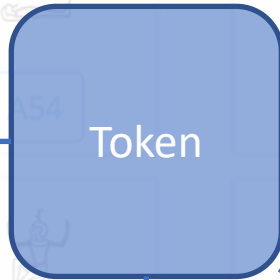
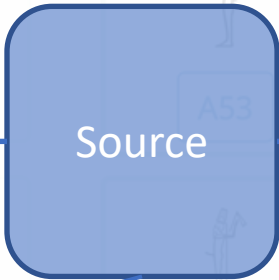
- \* Thot Collections
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Phonogram *hn*  
(in *hn.t* 'statue')



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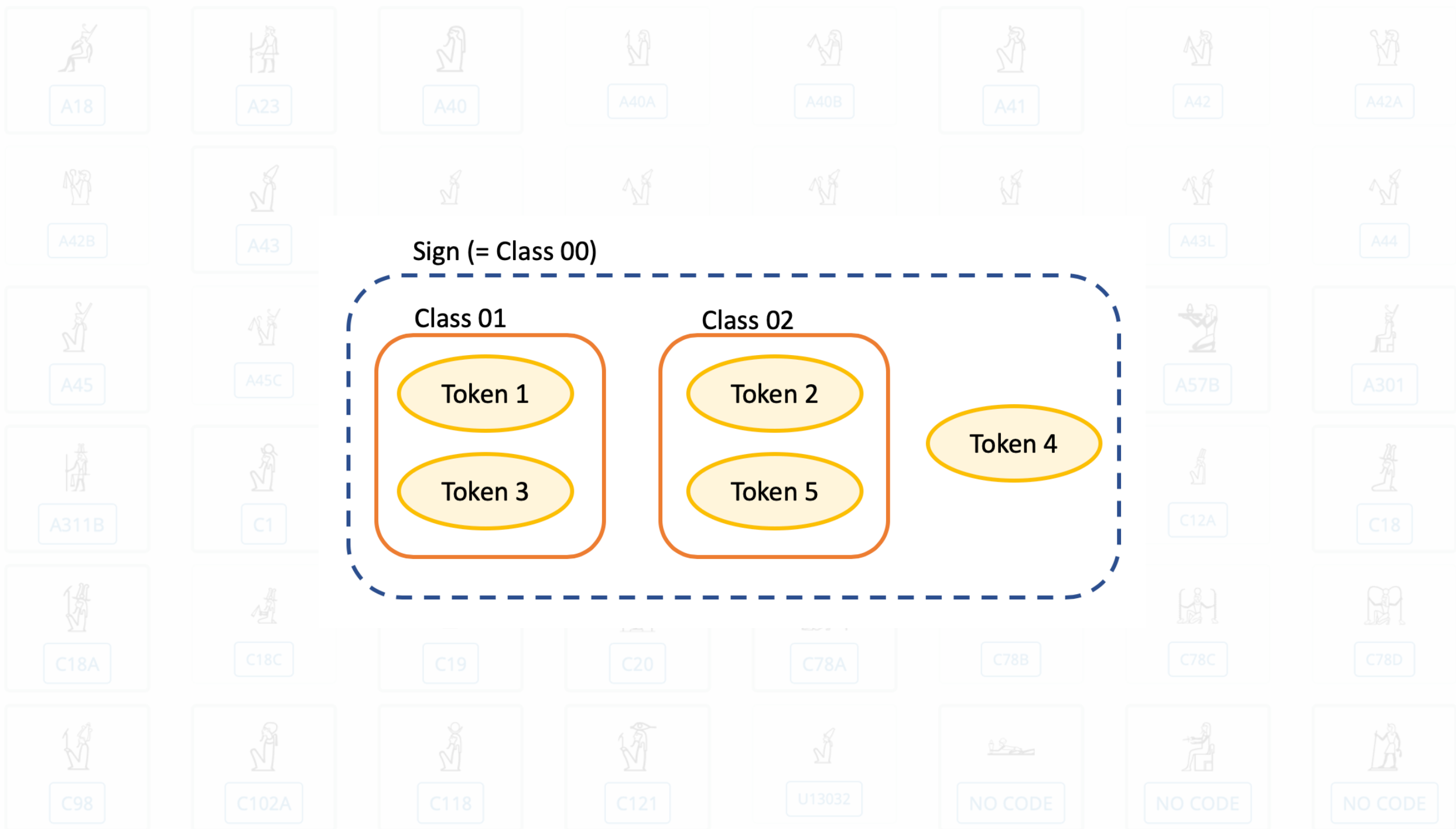
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Filter concepts in current



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- > \* Text content





# Recent developments

Hieroglyphic repertoire expansion in Unicode

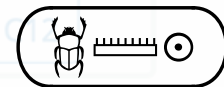
Well known but not recorded hieroglyphs

Local variations

# Hieroglyphic repertoire expansion in Unicode

- Currently 1072 Hieroglyphic signs in Unicode
- Primarily an expansion based on **Graeco-Roman signs**.
- Introduction of *Control Characters* (Accepted, and likely available in 2023).

- Insertion – Overlay – Mirroring – Rotation – Enclosure controls – Shading



- For more detail see Nederhof et al., Additional control characters for Ancient Egyptian hieroglyphic texts (<https://www.unicode.org/L2/L2021/21208-egyptian-ctrl.pdf>)

# Hieroglyphic repertoire expansion in Unicode

- Currently 1072 Hieroglyphic signs in Unicode
- Primarily an expansion based on Graeco-Roman signs
- Introduction of *Control Characters* (Accepted, and likely available in 2023)
- Expansion of Hieroglyphic repertoire
  - Unicode project funded through a Google Research grant awarded to Dr. Deborah Anderson at UC Berkeley (Performed by Jorke Grotenhuis)

# Hieroglyphic repertoire expansion in Unicode

- Currently 1072 Hieroglyphic signs in Unicode
- Primarily an expansion based on Graeco-Roman signs
- Introduction of *Control Characters* (Accepted, and likely available in 2023)
- Expansion of Hieroglyphic repertoire
  - Creation of a candidate list
    - Two candidate lists
      - Unicode candidate list: Inclusion based on data from modern and ancient sources: TLA, Ramses, TSL, Karnak database, Cauville, Kurth, Valeurs phonétiques (Daumas), Hannig, Dendera (Hallof), Athribis, Kom Ombo.

# Hieroglyphic repertoire expansion in Unicode

- Currently 1072 Hieroglyphic signs in Unicode
- Primarily an expansion based on Graeco-Roman signs
- Introduction of *Control Characters* (Accepted, and likely available in 2023)
- Expansion of Hieroglyphic repertoire
  - Creation of a candidate list
    - Two candidate lists
      - Unicode candidate list
      - Unicode *core* list: A curated list, where every sign is verified with an image (photo or facsimile of an Ancient source) and accompanied by a description and function.

# Hieroglyphic repertoire expansion in Unicode

- Currently 1072 Hieroglyphic signs in Unicode
- Primarily an expansion based on Graeco-Roman signs
- Introduction of *Control Characters* (Accepted, and likely available in 2023)
- Expansion of Hieroglyphic repertoire
  - Creation of a candidate list
    - Two candidate lists
      - Unicode candidate list: +/- 4000 signs (including the 1072 existing signs)
      - Unicode *core* list: +/- 3000 signs (including most of the 1072 existing signs).



# Hieroglyphic repertoire expansion in Unicode

- Currently 1072 Hieroglyphic signs in Unicode
- Primarily an expansion based on Graeco-Roman signs
- Introduction of *Control Characters* (Accepted, and likely available in 2023)
- Expansion of Hieroglyphic repertoire
  - Creation of a candidate list
    - Two candidate lists
      - Unicode candidate list
      - Unicode *core* list
    - A windows capable font (Andrew Glass)

Well known but not recorded hieroglyphs



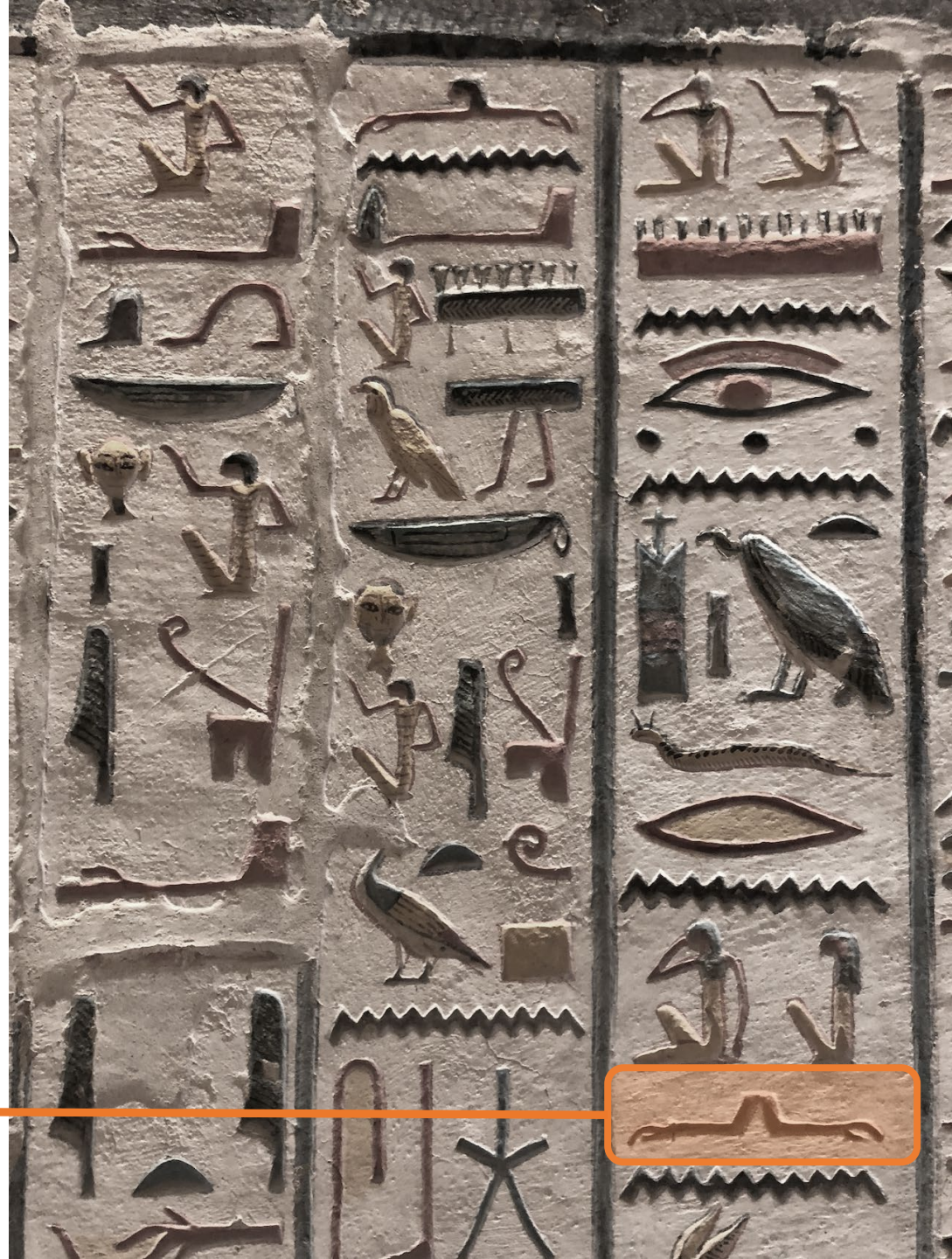
KV 6 (Ramses IX)



Well known but not recorded hieroglyphs

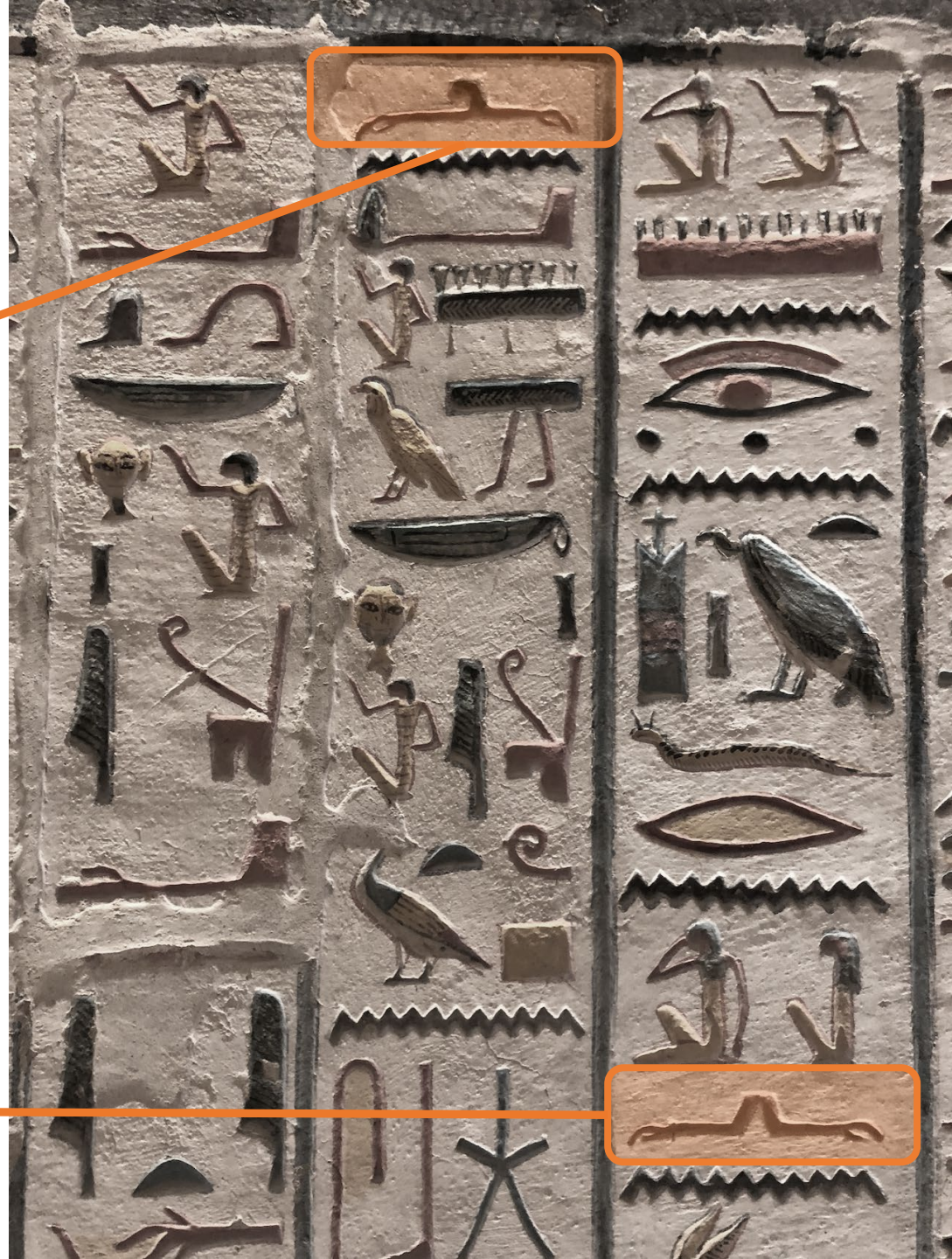


KV 6 (Ramses IX)





Well known but not recorded hieroglyphs



KV 6 (Ramses IX)



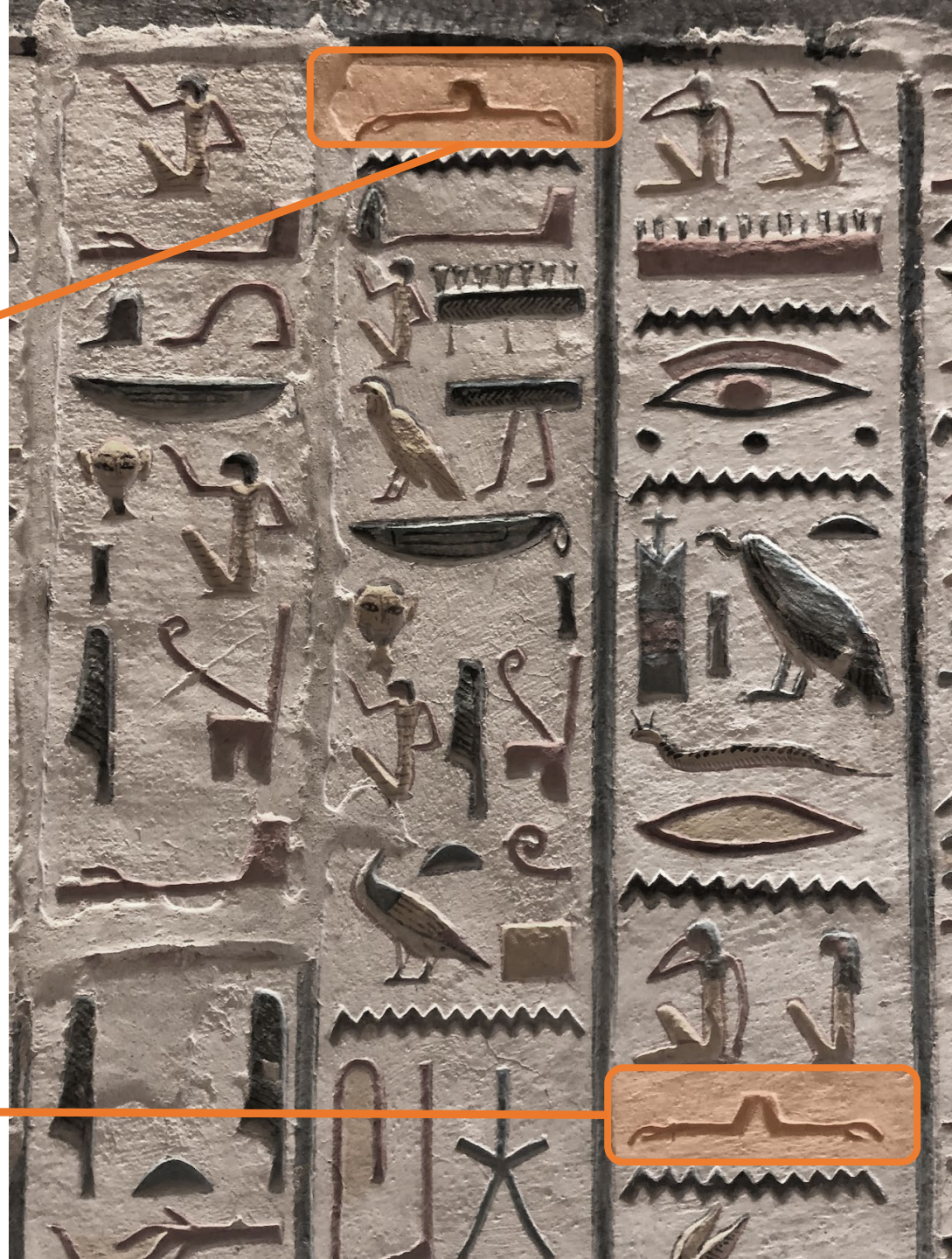
Well known but not recorded hieroglyphs



KV 9 (Ramses V/VI)



KV 6 (Ramses IX)





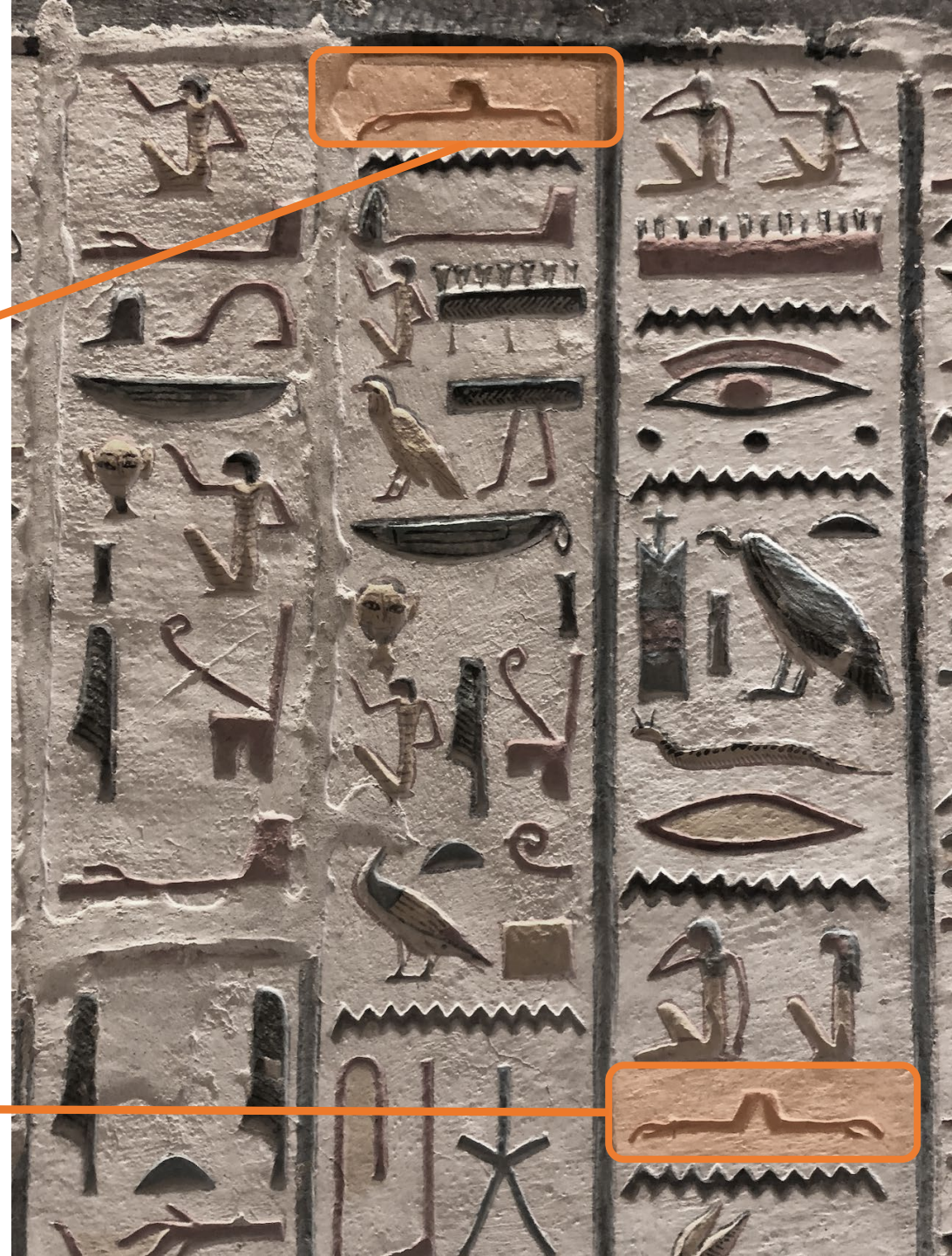
Well known but not recorded hieroglyphs



KV 9 (Ramses V/VI)



KV 6 (Ramses IX)





Well known but not recorded hieroglyphs



QV 52 (Tyti)



Well known but not recorded signs

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QV 52 (Tyti)





# Local variants



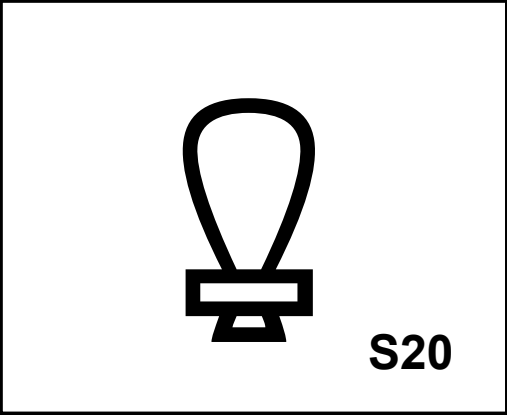
Tomb of Ankhtifi



# Local variants



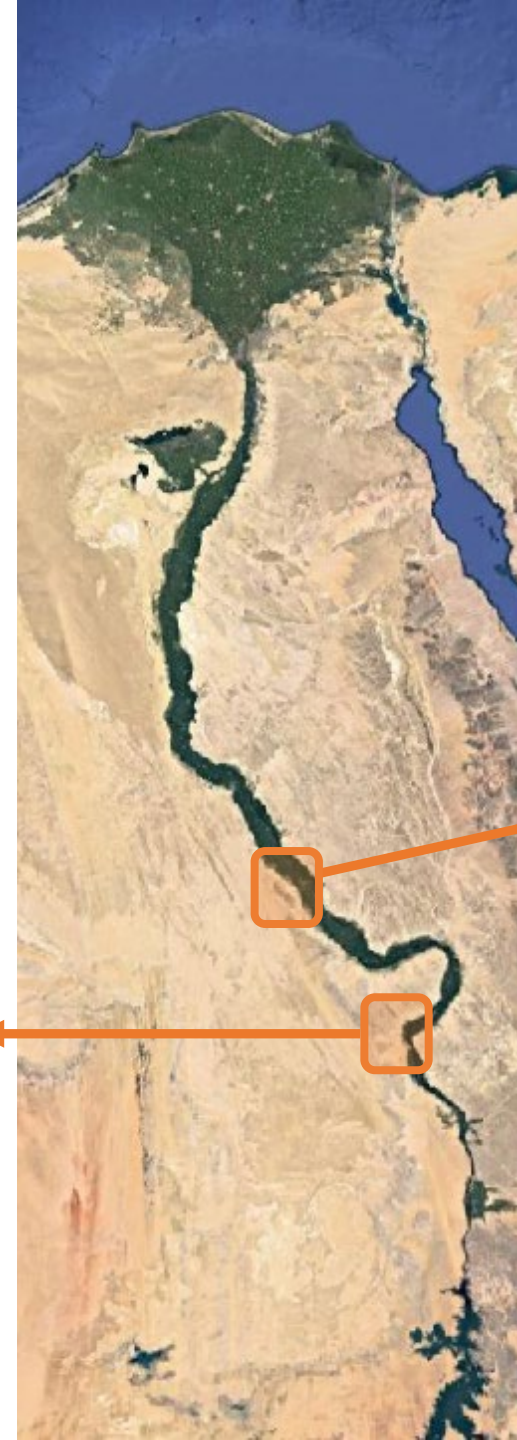
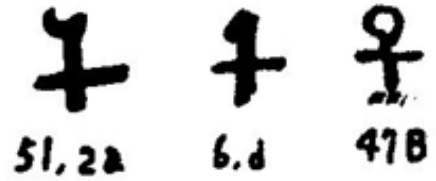
Tomb of Ankhtifi



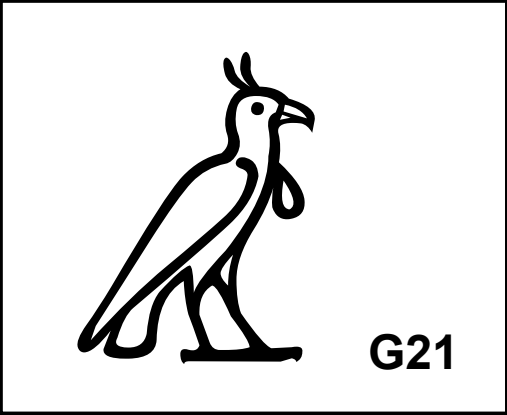
OK



FIP

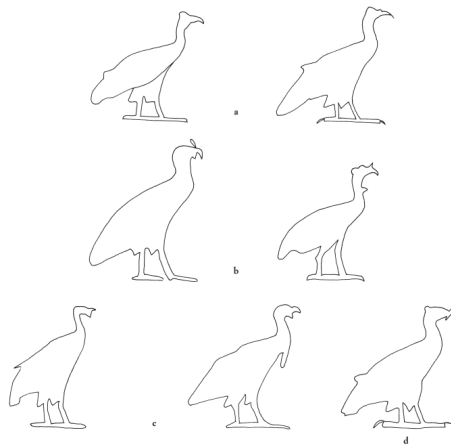






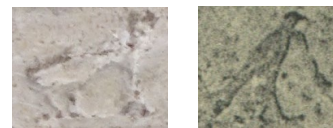
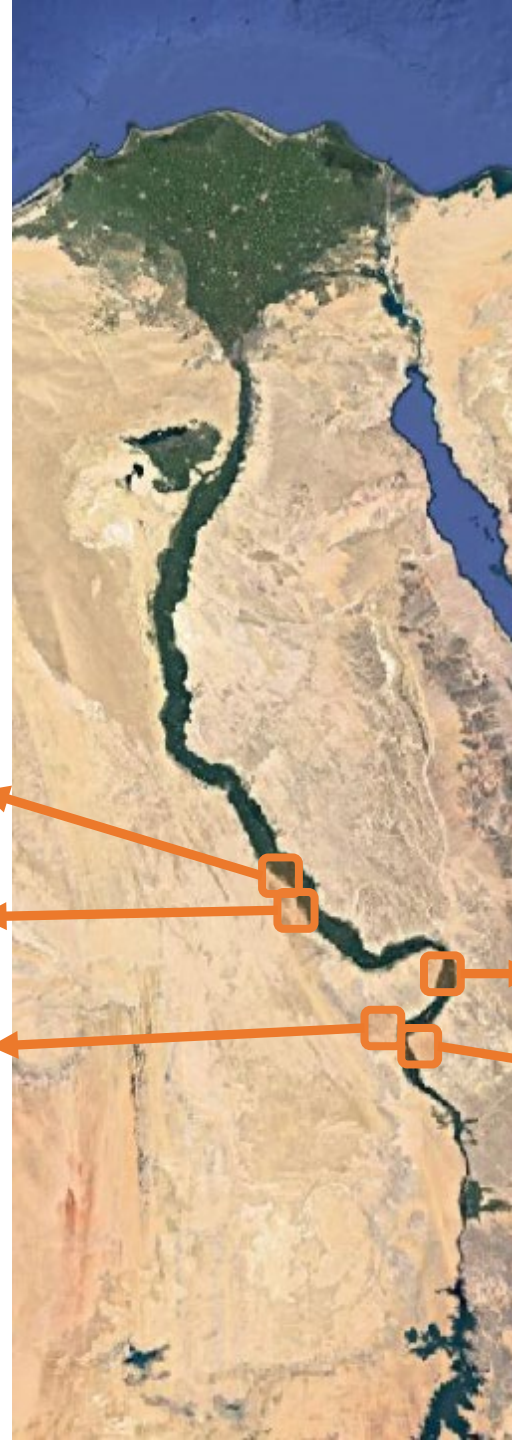
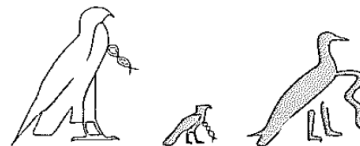
G21

OK



OK forms of G21 (N. Beaux, *BIFAO* 104, 24, fig. 3)

FIP





## TSL\_1\_3381



TSL\_1\_3381\_00



TSL\_1\_3381\_01



TSL\_1\_3381\_02



TSL\_1\_3381\_03

Description: A saharan helmeted guinea fowl (*Numida m. meleagris*), with a lappet at the front of its breast. ▼

Codes ▼

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Functions

Classes

Tokens

Cite as



### TSL\_1\_3381\_00

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### TSL\_1\_3381\_02

Description ▼

Codes ▼

Bibliography ▼

Credits ▼



### TSL\_1\_3381\_01

Description ▼

Codes ▼

Bibliography ▼

Credits ▼



### TSL\_1\_3381\_03

Description ▼

Codes ▼

Bibliography ▼

Credits ▼



## TSL\_1\_3381



TSL\_1\_3381\_00



TSL\_1\_3381\_01



TSL\_1\_3381\_02



TSL\_1\_3381\_03



TSL\_1\_3381\_04

Description: A saharan helmeted guinea fowl (*Numida m. meleagris*), with a lappet at the front of its breast. ▼

Codes ▼

Bibliography ▼

Credits ▼

Functions Classes Tokens Cite as



### TSL\_1\_3381\_00

Description ▼

Codes ▼

Bibliography ▼

Credits ▼



### TSL\_1\_3381\_02

Description ▼

Codes ▼

Bibliography ▼

Credits ▼



### TSL\_1\_3381\_04

Description ▶

A saharan helmeted guinea fowl (*Numida m. meleagris*), with a lappet in the form of a wick of twisted flax at the front of its breast.

Basic Form: full quadrat

Tag: bird, guinea-fowl, rope, wick

Type: compound

Components TSL\_1\_3381\_03

TSL\_1\_6369\_00

Bibliography ▶

Brovarski, E. (2018), *Naga ed-Dêr in the First Intermediate Period*. Atlanta, GA: Lockwood Press., page 370.

Morenz, Ludwig (2010), *Die Zeit der Regionen im Spiegel der Gebelein-Region: kulturgeschichtliche Re-Konstruktionen*. Probleme der Ägyptologie 27. Leiden: Brill., pages 165-166.

Credits ▶

Creator:

Editor(s): Ph. Seyr



### TSL\_1\_3381\_01

Description ▼

Codes ▼

Bibliography ▼

Credits ▼



### TSL\_1\_3381\_03

Description ▼

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Bibliography ▼

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[www.thotsignlist.org](http://www.thotsignlist.org)

We are looking forward to future collaborations!